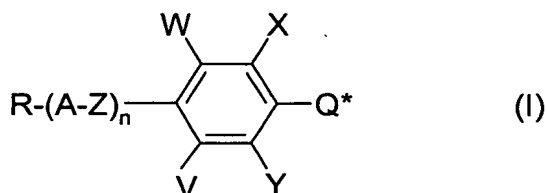


# Patent Claims

1. Chiral dopant having a laterally alkylated phenyl unit of the general formula I:



in which:

- Q\* is a unit having an asymmetric carbon atom,
- R is -H, an alkyl or alkenyl radical having from 1 to 12 carbon atoms which is unsubstituted or at least monosubstituted by halogen, and in which one or more non-adjacent -CH<sub>2</sub>- groups may be replaced by -O- or -S- and/or -C≡C-, as well as F or Cl,
- A, independently of one another, are a single bond, 1,4-phenylene, in which, in addition, one or more H atoms may be replaced by F, 1,4-cyclohexylene, in which, in addition, one or two CH<sub>2</sub> groups may be replaced by -O-, or 1,4-bicyclo[2.2.2]octanyl,
- Z, independently of one another, are a single bond, -CH<sub>2</sub>-CH<sub>2</sub>-, -O-CH<sub>2</sub>-, -CH<sub>2</sub>-O-, -CF<sub>2</sub>-O-, -O-CF<sub>2</sub>-, -CF<sub>2</sub>-CF<sub>2</sub>- or -C≡C-,
- V and W, independently of one another, are linear or branched alkyl or alkoxy having from 1 to 12 carbon atoms which is unsubstituted or monosubstituted or polysubstituted by halogen, or H, F or Cl,
- X and Y, independently of one another, are linear or branched alkyl or alkoxy having o or p carbon atoms which is unsubstituted or

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monosubstituted or polysubstituted by halogen, where o and p, independently of one another, are identical or different and are integers in the range from 1 to 12, H, F or Cl, where in the case of H, F and Cl, o or p = 0, or trimethylsilyl, and

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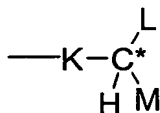
n is from 1 to 3,

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with the proviso that X and/or Y is/are either an unsubstituted or halogen-substituted alkyl or alkoxy radical having o or p carbon atoms, where the sum  $o + p$  is  $\geq 2$ , or a trimethylsilyl radical.

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2. Chiral dopant according to Claim 1, characterised in that unit  $Q^*$  having an asymmetric carbon atom has the following structure



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in which

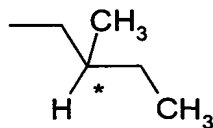
K is  $-\text{CH}_2-$ ,  $-\text{O}-$ ,  $-\text{CH}_2\text{CH}_2-$ ,  $-\text{OCH}_2-$ ,  $-\text{CH}_2\text{O}-$ ,  $-\text{OCF}_2-$ ,  $-\text{CF}_2\text{O}-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-\text{CH}=\text{CH}-$  or a single bond, and

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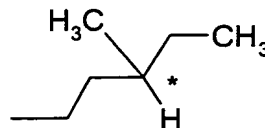
L and M are alkyl, cycloalkyl, O-alkyl, alkenyl, alkynyl or aryl, where L must be different from M.

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3. Chiral dopant according to Claim 1 or 2, characterised in that unit  $Q^*$  having an asymmetric carbon atom has one of the following structures:



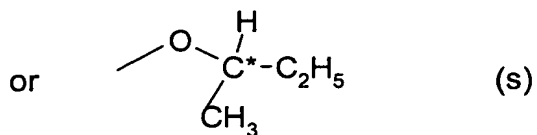
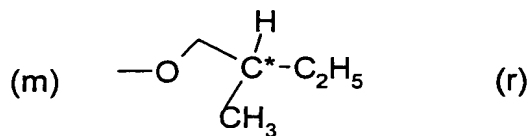
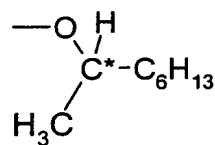
(h)



(i)

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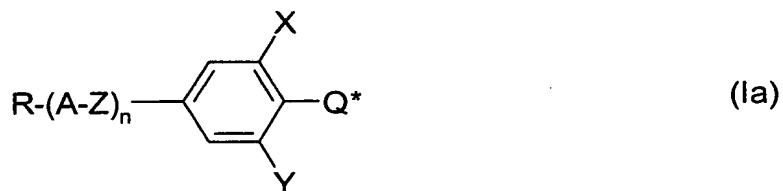
- 51 -



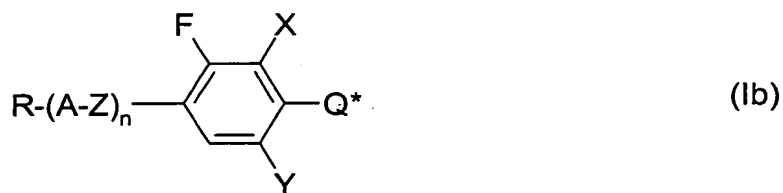
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4. Chiral dopant according to at least one of the preceding claims, characterised in that it has one of the following basic structures:

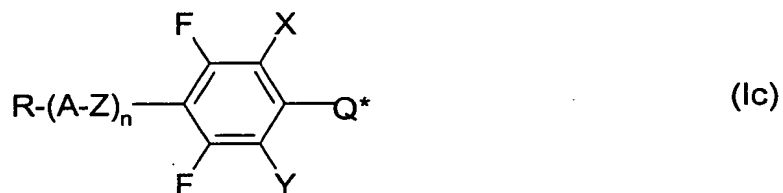
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5. Use of at least one chiral dopant according to at least one of the preceding claims in liquid-crystalline mixtures.
6. Liquid-crystalline mixture comprising at least one chiral dopant according to at least one of Claims 1 to 4.

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7. Electro-optical display element containing a liquid-crystalline mixture according to Claim 6.

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